

CLAIMS

1. A substance, or a derivative thereof, having an ability to bind to a CD61 protein and an inhibitory effect on inflammatory cytokine production.
- 5 2. The substance or derivative of claim 1, wherein the substance is a protein.
3. The substance or derivative of claim 1, wherein the substance is an antibody.
- 10 4. The substance or derivative of claim 1, 2, or 3, wherein the inflammatory cytokine is any one of IFN- γ , TNF α , IL-1, and IL-6.
5. The substance or derivative of claim 1, 2, 3, or 4, having an IL-10 production-inducing effect.
- 15 6. An inhibitor of inflammatory cytokine production comprising as an effective ingredient the substance or derivative of any one of claims 1 to 5.
7. An isolated DNA of any one of the following (a) to (d):
 - 20 (a) a DNA of any one of SEQ ID NOs: 9 to 16;
 - (b) a DNA encoding the amino acid sequence of any one of SEQ ID NOs: 1 to 8;
 - (c) a DNA which hybridizes under stringent conditions with a DNA of any one of SEQ ID NOs: 9 to 16; and
 - (d) a DNA encoding an amino acid sequence with a deletion, addition, insertion and/or
 - 25 substitution of one or more amino acids in the amino acid sequence of SEQ ID NOs: 1 to 8.
8. A vector carrying the DNA of claim 7.
9. A transformant carrying the DNA of claim 7 or the vector of claim 8.
- 30 10. An anti-CD61 antibody, wherein the heavy chain polypeptide is a polypeptide of the following (a) or (b):
 - (a) a polypeptide comprising the amino acid sequence of SEQ ID NO: 4; or
 - (b) a polypeptide comprising an amino acid sequence with a deletion, addition, insertion
 - 35 and/or substitution of one or more amino acids in the amino acid sequence of SEQ ID NO:

4 and wherein the amino acid is functionally equivalent to the amino acid sequence of SEQ ID NO: 4.

11. An anti-CD61 antibody comprising the amino acid sequence of the following (a) or (b) as an amino acid sequence of a CDR (complementarity determining region) of a heavy chain polypeptide:

(a) an amino acid sequence of any one of SEQ ID NOs: 1 to 3; or

(b) an amino acid sequence with a deletion, addition, insertion and/or substitution of one or more amino acids in the amino acid sequence of SEQ ID NOs: 1 to 3 and which is functionally equivalent as a CDR (complementarity determining region) to the amino acid sequence of any one of SEQ ID NOs: 1 to 3.

12. An anti-CD61 antibody, wherein a light chain polypeptide is a polypeptide of the following (a) or (b):

(a) a polypeptide comprising the amino acid sequence of SEQ ID NO: 8; or

(b) a polypeptide comprising an amino acid sequence with a deletion, addition, insertion and/or substitution of one or more amino acids in the amino acid sequence of SEQ ID NO: 8 and wherein the amino acid is functionally equivalent to the amino acid sequence of SEQ ID NO: 8.

13. An anti-CD61 antibody comprising the amino acid sequence of the following (a) or (b) as an amino acid sequence of a CDR (complementarity determining region) of a light chain polypeptide:

(a) an amino acid sequence of any one of SEQ ID NOs: 5 to 7; or

(b) an amino acid sequence with a deletion, addition, insertion and/or substitution of one or more amino acids in the amino acid sequence of SEQ ID NOs: 5 to 7 and which is functionally equivalent as a CDR (complementarity determining region) to the amino acid sequence of any one of SEQ ID NOs: 5 to 7.

14. A pharmaceutical for preventing or treating an inflammatory disease, wherein the pharmaceutical comprises the inhibitor of inflammatory cytokine production of claim 6 or the anti-CD61 antibody of any one of claims 10 to 13.

15. A pharmaceutical for preventing or treating hypercytokinemia, wherein the pharmaceutical comprises the inhibitor of inflammatory cytokine production of claim 6 or

the anti-CD61 antibody of any one of claims 10 to 13.

16. A method for inhibiting inflammatory cytokine production using the substance or derivative of any one of claims 1 to 5 or the anti-CD61 antibody of any one of claims 10 to 13.

17. A method for judging the effectiveness of the pharmaceutical of claim 14 or 15 in treating an inflammatory disease or hypercytokinemia, wherein the method comprises the step of contacting a test sample with an anti-CD61 antibody.

18. A kit for judging the effectiveness of the pharmaceutical of claim 14 or 15 in treating an inflammatory disease or hypercytokinemia.

19. A method of screening for a substance having an ability to bind to a CD61 protein and an inhibitory effect on inflammatory cytokine production, wherein the method comprises the steps of:

(a) contacting an inducer of cytokine production and a test substance with a CD61-expressing cell; and

(b) measuring the inflammatory cytokine level, comparing it with that of a control contacted with only the inducer of cytokine production, and selecting a test substance that reduced the cytokine level produced.